Ian Shanahan (1987/1997)

– To Ὁ Παναγιος

For anybody to play:

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Cosmos (One Note)

for

solo Yamaha DX7 keyboard synthesizer

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Cosmos (One Note) *was premièred by Ian Shanahan (Yamaha DX7 keyboard synthesizer) during a "Sound Kitchen" concert held at The Performance Space, in the Department of Music, School of Contemporary Arts, the University of Western Sydney (Nepean), Kingswood, Sydney, on 13 November 1997.*

PROGRAMME ANNOTATION and PERFORMANCE NOTES

Cosmos (One Note)
for solo Yamaha DX7 keyboard synthesizer

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Music is the embodiment of the intelligence that exists in sound.

> – Hoëné Wronski (1776–1853).

To see a World in a Grain of Sand
And a Heaven in a Wild Flower,
Hold Infinity in the palm of your hand
and Eternity in an hour

> – William Blake: from **Auguries of Innocence** (from the Pickering MS).

While attempting to penetrate the mysteries of Frequency Modulation sound synthesis on a Yamaha DX7 synthesizer – preparatory to composing the tape part of my multimedia piece **Arcturus Timespace** (1987) – I was distracted by the potentialities of synthesizing DX7 sounds that evolve meaningfully over unusually long periods: spanning minutes instead of seconds! (For the benefit of the technically inquisitive, such slow timbral germination required painstaking adjustments of, and infinitesimal disparities between, [low] envelope-generator rates, the operator output levels and their detunings, and very careful specification of Low Frequency Oscillator settings that act upon both pitch- and amplitude-modulation parameters.) Anyway, Ian Fredericks, then Director of the Sydney University Experimental Sound Studio [SUESS] where I was carrying out this research, remarked positively upon one of these DX7 voices, to the effect that: "this isn't just a Yamaha DX7 sound, it's a whole god-damned piece!". At the time, in 1986, I stupidly thought nothing of Ian's perspicacious observation – until a decade or so later, when I stumbled upon this work once again. Of course, he's right! So, now fully appreciating Mr Fredericks' insightfulness, I tweaked a couple of parameters and named the thing **Cosmos (One Note)** ... because that's exactly what it is.

Closer to the time of its première, I mischievously savoured the likelihood that **Cosmos (One Note)** may just 'put a cat amongst the pigeons': given many commentator-pundits' current fetish for constructing often chimeric musical taxonomies, I relished the difficulty they might have in 'pigeon-holing' this piece ("*minimalist* in its performative action, but *maximalist* in its acoustical inner life – so just what *do* we label it?"); moreover – to invoke the ungainly jargon of musicological new-speak – because of the Yamaha DX7 keyboardist's almost complete physical immobility, **Cosmos (One Note)** 'problematizes' the *spectacle* of live performance. But such academicism does not really concern me here. I merely invite you to explore the sonic universe of this "whole god-damned piece", moment-by-moment, with your minds and ears rather than your eyes...

PROGRAMMING THE YAMAHA DX7 KEYBOARD SYNTHESIZER

Cosmos (One Note) embraces only one Yamaha DX7 'voice', *ShanEvol 1* (created by the composer)! All of its parametric data is provided below. Therefore, having initialized one of the 32 voices somewhere on this synthesizer, program these settings, precisely, into the machine.

PERFORMANCE INSTRUCTIONS

Having preselected the DX7 voice *ShanEvol 1*, depress the "Middle C" (C3)* key – only – with the *strongest possible attack*! Now stay perfectly still, statue-like, holding this key down until the sound definitely ceases to evolve – after approximately four minutes. Wait a few moments longer, then *furtively* release this key, remaining as quiescent as possible until several seconds have elapsed *after the sound has finally faded into total inaudibility*. (The piece is over when you relax, at last.)

VOICE NAME: *ShanEvol 1*   **Created by:** Ian Shanahan

Algorithm: 13   **Feedback:** 3   **Key Transpose:** C3

Pitch Modulation Sensitivity: 1   **Oscillator Synchronization:** On

LFO:	Wave	Speed	Delay	PMD	AMD	Sync
	Sine	02	99	05	16	On

	Op.1	Op.2	Op.3	Op.4	Op.5	Op.6
Ampl. Mod. Sens.:	0	0	0	0	1	2
Mode:	Ratio	Ratio	Ratio	Ratio	Ratio	Ratio
Frequency:	00.50	00.70	00.50	01.41	03.22	00.60
Detune:	–1	–7	+0	–7	–6	+2
EG Rate 1:	08	02	08	03	99	00
EG Rate 2:	00	03	00	04	11	04
EG Rate 3:	00	00	00	00	00	00
EG Rate 4:	05	17	03	10	00	15
EG Level 1:	99	91	99	79	51	99
EG Level 2:	91	74	92	99	61	71
EG Level 3:	99	99	99	82	78	99
EG Level 4:	00	00	00	00	00	00
Keyboard Level Scaling						
Break Pt.:	A–1	A–1	A–1	A–1	A–1	A–1
Curve L:	–LIN	–LIN	–LIN	–LIN	–LIN	–LIN
Curve R:	–LIN	–LIN	–LIN	–LIN	–LIN	–LIN
Depth L:	00	00	00	00	00	00
Depth R:	00	00	00	00	00	00
Kbd. Rate Scaling:	0	0	0	0	0	0
Op. Outpt. Level:	99	90	99	93	99	99
K. Velocity Sens.:	0	0	0	0	0	0

Pitch EG

Rate 1: 99	**Rate 2:** 99	**Rate 3:** 99	**Rate 4:** 99
Level 1: 50	**Level 2:** 50	**Level 3:** 50	**Level 4:** 50

Poly/Mono: Poly

Pitch Bend:	Range	Step
	00	00

Portamento:	Mode	Glissando	Time
	Sus-Key P Retain	Off	00

	Range	Pitch	Amplitude	EG Bias
Modulation Wheel:	00	Off	Off	Off
Foot Control:	00	Off	Off	Off
Breath Control:	00	Off	Off	Off
Aftertouch:	00	Off	Off	Off

* NB: Assuming that A3 = 440 Hz, then C3 [MIDI note number 60] ≈ 261.6255653 Hz.